

Amendments to the Claim:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A metabolically engineered micro-organism which is yeast having an operative first metabolic pathway in which a first metabolite is transformed into a second metabolite in a reaction in which NAD (Nicotinamide adenine dinucleotide, oxidized form) is a cofactor for a first enzyme, said reaction step producing NADH (Nicotinamide adenine dinucleotide, reduced form), and in which said second metabolite is transformed into at least one further metabolite in a reaction catalysed by a second enzyme, and having an operative second metabolic pathway characterized by an enzyme activity in excess of a native level ~~in respect~~ of a third enzyme catalyzing a non-reversible reaction in which NADP (Nicotinamide adenine dinucleotide phosphate, oxidized form) is a cofactor and NADPH (Nicotinamide adenine dinucleotide phosphate, reduced form) is a product and in which said first metabolite is transformed into a said further metabolite without the involvement of said second enzyme.

2. (original) A micro-organism as claimed in claim 1, wherein said first metabolic pathway is a native pathway.

3. (currently amended) A micro-organism as claimed in claim 1, wherein said first enzyme is a phosphorylating dehydrogenase.

4. (previously presented) A micro-organism as claimed in claim 1, wherein said second enzyme is a kinase.

5. (original) A micro-organism as claimed in claim 3, wherein said third enzyme is a non-phosphorylating dehydrogenase.

6. (currently amended) A micro-organism as claimed in claim 5, wherein said third enzyme is GAPN (NADP-dependent Glyceraldehyde-3-phosphate dehydrogenase, EC 1.2.1.9).

7. (currently amended) A micro-organism as claimed in claim 6, wherein said first enzyme is GAPDH (NAD-dependent

Glyceraldehyde-3-phosphate dehydrogenase, EC 1.2.1.12).

8. (previously presented) A micro-organism as claimed in claim 1, wherein at least one copy of a genetic sequence encoding said third enzyme has been recombinantly introduced into said organism.

9. (previously presented) A micro-organism as claimed in claim 1, wherein a genetic sequence encoding said third enzyme is operatively linked to an expression signal not natively associated with said genetic sequence in said organism.

10. (cancelled)

11. (previously presented) A micro-organism as claimed in claim 1, which is a yeast belonging to the genus *Saccharomyces*, *Kluveromyces*, *Candida*, *Pichia*, *Debaromyces*, *Hansenula*, *Yarrowia*, *Zygosaccharomyces* or *Schizosaccharomyces*.

12. (previously presented) A micro-organism as claimed in claim 11, which is a strain of *Saccharomyces cerevisiae*, *S. kluyveri*, *S. bayanus*, *S. exiguus*, *S. sevazzi*, *S. uvarum*, *Kluveromyces lactis*, *K. marxianus* var. *marxianus*, *K. thermotolerans*, *Candida utilis*, *C. tropicalis*, *Pichia stipidis*, *P. pastoris*, *P. sorbitophila*, *Debaromyces hansenii*, *Hansenula polymorpha*, *Yarrowia lipolytica*, *Zygosaccharomyces rouxii* or *Schizosaccharomyces pombe*.

13. (previously presented) A genetically transformed micro-organism which is a yeast containing one or more copies of a heterologous DNA sequence encoding GAPN (EC 1.2.1.9) operatively associated with an expression signal and having a functional native or heterologous expression capability for GAPDH (EC 1.2.12).

14. (withdrawn) A method of producing a desired metabolic product with decreased production of an undesired metabolic product, comprising culturing a micro-organism as claimed in claim 1 wherein the desired metabolic product is the product of the reaction catalyzed by said third enzyme, and the undesired metabolic product is the product of the reaction catalyzed by the second enzyme.

15. (withdrawn) A method as claimed in claim 14, wherein the desired product is ethanol, lactic acid, citric acid, an amino acid or an antibiotic.

16. (withdrawn) A method as claimed in claim 14, wherein said undesired metabolic product is glycerol, acetate or an amino acid.